AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

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1   1. (Currently amended) A method for using query signatures to provide
2 security for a database, comprising:
3   receiving a query at the database;
4   parsing the query at the database to determine a signature for the query,
5 wherein the signature specifies a structure based on operations for the query and is
6 independent of the value of literals in the query and wherein the signature is
7 constructed from structured query language (SQL) keywords of the query;
8   determining if the signature is located in a signature cache, which contains *Y. N ?*
9 signatures for valid queries; and
10   if so, processing the query.

1   2. (Original) The method of claim 1, wherein if the signature is not in the *OK*
2 signature cache, the method further comprises triggering a mismatch alert.

1   3. (Original) The method of claim 2, wherein the mismatch alert throws an
2 error.

1   4. (Original) The method of claim 2, wherein the mismatch alert is sent to
2 a database administrator and the query is processed.

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1   5. (Original) The method of claim 2, wherein the mismatch alert is sent to
2   a requesting application, thereby allowing the requesting application to take
3   action.

1   6. (Original) The method of claim 1, wherein the signature cache is
2   initialized by recording signatures of valid transactions during a system   *101*
3   initialization operation.

1   7. (Original) The method of claim 1, wherein if the signature generates a
2   mismatch alert and if the query is a valid query, the method further comprises   *112 2nd.*
3   allowing a database administrator to add the signature to the signature cache.

1   8. (Currently amended) A computer-readable storage medium storing
2   instructions that when executed by a computer cause the computer to perform a
3   method for using query signatures to provide security for a database, wherein the
4   computer-readable storage medium includes magnetic and optical storage devices,
5   disk drives, magnetic tape, CDs (compact discs), and DVDs (digital versatile discs
6   or digital video discs), the method comprising:
7   receiving a query at the database;
8   parsing the query at the database to determine a signature for the query,
9   wherein the signature specifies a structure based on operations for the query and is
10   independent of the value of literals in the query and wherein the signature is
11   constructed from structured query language (SQL) keywords of the query;
12   determining if the signature is located in a signature cache, which contains
13   signatures for valid queries; and
14   if so, processing the query.

1   9. (Original) The computer-readable storage medium of claim 8, wherein

2   if the signature is not in the signature cache, the method further comprises

3   triggering a mismatch alert.

1   10. (Original) The computer-readable storage medium of claim 9, wherein

2   the mismatch alert throws an error.

1   11. (Original) The computer-readable storage medium of claim 9, wherein

2   the mismatch alert is sent to a database administrator and the query is processed.

1   12. (Original) The computer-readable storage medium of claim 9, wherein

2   the mismatch alert is sent to a requesting application, thereby allowing the

3   requesting application to take action.

1   13. (Original) The computer-readable storage medium of claim 8, wherein

2   the signature cache is initialized by recording signatures of valid transactions

3   during a system initialization operation.

1   14. (Original) The computer-readable storage medium of claim 8, wherein

2   if the signature generates a mismatch alert and if the query is a valid query, the

3   method further comprises allowing a database administrator to add the signature

4   to the signature cache.

1   15. (Currently amended) An apparatus for using query signatures to

2   provide security for a database, comprising:

3   a receiving mechanism configured to receive a query at the database;

4   a parsing mechanism configured to parse the query at the database to

5   determine a signature for the query, wherein the signature specifies a structure

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6   based on operations for the query and is independent of the value of literals in the

7   query and wherein the signature is constructed from structured query language

8   (SQL) keywords of the query;

9   a matching mechanism configured to determine if the signature is located

10   in a signature cache, which contains signatures for valid queries; and

11   a processing mechanism configured to process the query.

1   16. (Original) The apparatus of claim 15, further comprising a triggering

2   mechanism configured to trigger a mismatch alert.

1   17. (Original) The apparatus of claim 16, wherein the mismatch alert

2   throws an error.

1   18. (Original) The apparatus of claim 16, wherein the mismatch alert is

2   sent to a database administrator and the query is processed.

1   19. (Original) The apparatus of claim 16, wherein the mismatch alert is

2   sent to a requesting application, thereby allowing the requesting application to

3   take action.

1   20. (Original) The apparatus of claim 15, further comprising a recording

2   mechanism configured to record signatures of valid transactions during a system

3   initialization operation.

1   21. (Original) The apparatus of claim 15, further comprising an adding

2   mechanism configured to allow a database administrator to add the signature to

3   the signature cache if the signature generates a mismatch alert and if the query is a

4   valid query.

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